

NAE/JE Additional Assumptions for CAD Cell Alternative #4
\$15MIL CAD CELL 3.5% ASSUMPTIONS

- 1 Dredging in years 2008-2009 will be to Z*. (per EPA 7/17/08) This is a deviation from EPAs description of Alt 4 distributed in January 2008.
- 2 Volumes of sediment to remove from MUs and wetlands based on FW's "Volumes, Areas and Properties of Sediment by MUs" document Jan 2003.
A total volume of 775,926 CY is remediated with this alternative, which is consistent with the agreed-upon volume calculations and the FW report.
- 3 The unit rates used in Alternative 4 have been updated where possible per EPA request, and, therefore, are not the same unit rates used in the Alts 1-3 analyses.
Therefore, Alt 4 should be considered a stand-alone cost estimate, since its costs are not consistent with or comparable to Alts 1-3.
- 4 The assumption used in previous Alts for wetlands excavation and remediation unit rates has been changed for Alt. 4, per EPA's request. The cost estimate 1b prepared by Jacobs in December 2007 for EPA is used as the basis of this cost.
- 5 The Demobilization of Area C and D cost is taken from the cost estimate 1a prepared by Jacobs in December 2007 for EPA. The demobilization of Area C assumes that the disposal cells and their contents are left in place.
- 6 The annual O&M Fixed Costs are reduced by 75% once Areas C and D are demobilized. The percentage of reduction was calculated using the 2007 itemized costs for O&M and removing or reducing costs for electric service, water service, telephone service, security service, and trailer rentals.
- 7 The Sampling and Analysis fixed cost is the costs for material characterization, bathymetric surveys, ambient air monitoring, and WWTP monitoring, as applicable. After Area D is demobilized, WWTP monitoring is discontinued. Bathymetric surveys are conducted in years when MUs are dredged, either hydraulically or mechanically. Ambient air monitoring is conducted when TSCA material is dredged and when silt curtain is installed or removed, as with previous alternatives. Material characterization is conducted when TSCA or non-TSCA material is disposed, including material from CAD cell excavation.
- 8 Battelle sampling includes water quality monitoring and confirmation sampling. The amount of sampling is proportional to the type of work, consistent with previous alternatives. Water quality monitoring is performed during any intrusive activities. Confirmation sampling is conducted when any dredging of MUs occurs.
- 9 Mechanical dredging costs for sand and gravel assumes stockpiling at Area C and transport by truck from Area C.
- 10 Hydraulic dredge rate is 490 cy/day.
- 11 Mechanical dredge rate is 500cy/day for MUs 1-32.
- 12 Mechanical dredge rate is 3000cy/day for MUs 33-37.
- 13 A tipping fee of \$40/cy is included for material disposed into the City CAD cell. The fee amount is per 2008 EPA estimate and escalated to the appropriate year.
- 14 Wetlands restoration rate is 300 cy/day; this is used as an average and will vary by activity since the unit rate includes building roads, excavation, restoration, and removing roads.
- 15 Finalization of the draft CAD Cell design will be performed in Year 2011, following ROD approval. The estimated cost is based on the cost of the draft design drilling, studies and document. The cost is entered as a "Sampling and Analysis" fixed cost.
- 16 One year of cap monitoring will take place in Year 2022. The sampling, analysis and reporting cost is included with the "Battelle Sediment Sampling & WQM" fixed cost. The bathymetric survey, analysis and reporting cost is included with the "Sampling & Analysis" fixed cost item.
Costs are based on the monitoring currently performed at OU3, and include a 2-day bathymetric survey once a year, sampling once a year, and an annual report.
- 17 During mechanical dredging (starting 2012), JE fixed costs are increased by an additional 50% due to longer days and season, and reduced again in 2022 and 2023.
- 18 The NSTAR crossing cost is an amount paid by EPA to NSTAR. The amount is escalated from a 2007 estimate provided by NAE.